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Notice of Allowability

Application No.

10/693,016

Applicant(s)

GOAD ET AL

Examiner

Stephen W. Smoot

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application papers filed on 24 October 2003.
2. ☒ The allowed claim(s) is/are 1-28.
3. ☒ The drawings filed on 24 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1-23-04; 4-12-04; 8-2-04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Stephen W. Smoot
Patent Examiner / AU 2813

This Office action is in response to application papers filed on 24 October 2003.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Timothy M. Honeycutt on 15 February 2005.

2. The application has been amended as follows:

In the Specification:

On page 4, line 23, change "first halo" to --third halo--;

On page 4, line 23, change "first gate" to --second gate--;

On page 5, line 15, change "first halo" to --third halo--;

On page 5, line 15, change "first gate" to --second gate--; and

On page 10, line 8, change "contacts 34" to --contacts 38--.

In the Claims:

In claim 9, line 2, change "the substrate" to --a substrate--;

In claim 9, line 3, change "a substrate" to --the substrate--;

In claim 9, line 23, change "first halo" to --third halo--;

In claim 9, line 24, change "first gate" to --second gate--;

In claim 18, line 2, change "the substrate" to --a substrate--;

In claim 18, line 3, change "a substrate" to --the substrate--;

In claim 18, lines 25-26, change "first halo" to --third halo--; and

In claim 18, line 26, change "first gate" to --second gate--.

3. Claims 1-28 are allowed.

4. The following is an examiner's statement of reasons for allowance: Claims 1-28 are allowed because the prior art of record does not teach or suggest, in combination with the other claim limitations, a manufacturing method that includes forming a symmetric transistor and an asymmetric transistor on a substrate, wherein a first mask is used to form first and second halo regions proximate the source/drain regions of the symmetric transistor by off-axis implanting and a second mask is used to form a third halo region proximate the source region of the asymmetric transistor by off-axis implanting while preventing the formation of a halo region proximate the drain region of the asymmetric transistor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Joh, Eitan, Tzeng et al., Horch, and Efland et al. teach methods that feature forming symmetric and asymmetric field effect transistors on the same substrate. Hook et al. teach an angled implant process for forming symmetric and asymmetric field effect transistors on the same substrate.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen W. Smoot whose telephone number is 571-272-1698. The examiner can normally be reached on M-F (8:00 am to 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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